

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Liu, et al.

Serial No. 09/831,580

Filed: September 28, 2001

For: G PROTEIN-COUPLED RECEPTOR RESEMBLING
LEUKOTRIENE B4 RECEPTOR

Art Unit: 1646

Examiner: Murphy

RECEIVED
SEP 24 2003
TECH CENTER 1600-2900Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450INFORMATION DISCLOSURE STATEMENT
UNDER 37 CFR 1.97

Sir:

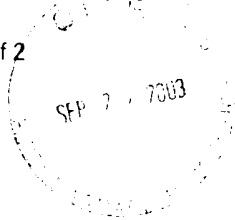
1. In compliance with 37 C.F.R. 1.97, submitted on the attached form herewith is a list of patents, publications or other information which are requested to be made of record in this application. This Information Disclosure Statement is not an admission that any patent, publication or other information referred to herein is "prior art" for this invention. In accordance with 37 C.F.R. 1.97(h), the filing of this Information Disclosure Statement shall not be construed to be an admission that the information cited in the Statement is, or is considered to be, material to patentability as defined in 37 C.F.R. 1.56(b).

2. In accordance with 37 C.F.R. 1.97(g), the filing of this Information Disclosure Statement shall not be construed to mean that a search has been made.

3. Applicants respectfully request that the Examiner initial the attached form after reviewing the pertinence of each reference.

4. Pursuant to the waiver by the Office of the requirement under 37 CFR 1.98 (a)(2)(i) dated July 11, 2003, if the filing date of this application is after June 30, 2003, copies of each cited U.S. patent and each U.S. patent application publication are not enclosed herewith.

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450, on the date appearing below.



INFORMATION DISCLOSURE STATEMENT

5. Pursuant to 37 C.F.R. 1.98(d), copies of references listed on the attached form that were submitted to or cited by the Office in a related application upon which the instant application relies for an earlier filing date under 35 U.S.C. 120 are not enclosed. Related application(s) in which references were submitted to or cited by the Office are as follows:

RELATED APPLICATION		
U. S. SERIAL NUMBER	FILING DATE	MERCK CASE

If this is inconvenient, additional copies will be submitted upon request.

6. In accordance with 37 C.F.R. 1.97, (check one)

- ☐ the attached information is filed within three months of the filing date of the captioned case.
- ☒ the attached information is filed more than three months after the filing date but prior to the mailing of a first Office Action on the merits.
- ☐ the attached information is being filed more than three months after the filing date and after the mailing of a first Office Action on the merits, but before the mailing date of a Final Action or Notice of Allowance. The enclosed authorization is therefore given to charge Deposit Account No. 13-2755 for the fee required under 37 C.F.R. 1.17(p).
- ☐ the undersigned certifies that each item of information contained in this Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Statement.
- ☐ the undersigned certifies that no item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, was known to any individual designated under 37 C.F.R. 1.56(c) more than three months prior to the filing of this Statement.

Respectfully submitted,

By: Vineet Kohli

Attorney _____ For Applicant(s)

Reg. No. 37,003

MERCK & CO., INC.

Patent Dept., RY60-30

P.O. Box 2000

Rahway, N.J. 07065-0000

Substitute for form 1449A PTO

INFORMATION DISCLOSURE

STATEMENT BY APPLICANT

(use as many sheets as necessary)

COMPLETE IF KNOWN

Application Number	09 831,580
--------------------	------------

Filing Date	September 29, 2001
--------------------	--------------------

First Named Inventor	Liu
-----------------------------	-----

Group Art Unit	1646
----------------	------

Examiner Name	Murphy
---------------	--------

Attorney Docket Number	20332P
------------------------	--------

Sheet

1

of

4

U.S. PATENT DOCUMENTS

[illegible]

FOREIGN PATENT DOCUMENTS

[illegible]

Familiar Situations

Date Considered _____

Substitute for form 1449B PTO				COMPLETE IF KNOWN	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i>				Application Number	09 831,580
				Filing Date	September 29, 2001
				First Named Inventor	Liu
				Group Art Unit	1646
				Examiner Name	Murphy
Sheet	2	of	4	Attorney Docket Number	20332P

NON PATENT LITERATURE DOCUMENTS		
Examiner Initials*	Cite No.	Include name of the author, title, date, page(s), volume-issue number(s) and place of publication.
		Cunningham, et al., "High-Resolution Epitope Mapping of hGH-Receptor Interactions by Alanine-Scanning Mutagenesis", Science, Vol. 244, pp. 1081-1085, (1989).
		DeGiulio, et al., "Increased Levels of Leukotriene β 4 and Interleukin-8 in Psoriatic Skin", Ann. New York Acad. Sci., Vol. 685, pp. 614-617 (1993).
		Dohlman, et al., "Model Systems for The Study of Seven-Transmembrane-Segment Receptors", Annu. Rev. Biochem., Vol. 60, pp. 653-688 (1991),
		Ford-Hutchinson, et al., "Leukotriene B ₄ , a potent chemokinetic and aggregating substance released from polymorphonuclear leukocytes", Vol. 286, pp. 265-268 (1980).
		Gladue, et al., "Inhibition of Leukotriene B ₄ -Receptor Interaction Suppresses Eosinophil Infiltration and Disease Pathology in a Murine Model of Experimental Allergic Encephalomyelitis", J. Exp. Med., Vol. 183, pp. 1983-1998 (1996).
		Graminski, et al., "Pigment Dispersion in Frog α -Melanophores Can Be Induced by a Phorbol Ester or Stimulation of a Recombinant Receptor That Activates Phospholipase C", Vol. 265, No. 8, pp. 5957-5964 (1993).
		Goetzl & Pickett, "The Human PMN Leukocyte Chemotactic Activity of Complex Hydroxy-Eicosatetraenoic Acids (HETEs)", J. of Immunol., Vol. 125, No. 4, pp. 1789-1791 (1980).
		Hebert, et al., "A Peptide Derived from a β 2-Adrenergic Receptor Transmembrane Domain Inhibits Both Receptor Dimerization and Activation", J. Biol. Chem., Vol. 271, pp. 16384-16392 (1996).
		Hess, et al., "Cloning and Pharmacological Characterization of a Human Bradykinin (BK-2) Receptor", Vol. 184, No. 1, pp. 260-268 (1992).
		Hodgson, "Receptor Screening and the Search for New Pharmaceuticals", Vol. 10, pp. 973-980 (1992).
		Hopp & Woods, "Prediction of protein antigenic determinants from amino acid sequences", Proc. Natl. Acad. Sci. USA, Vol. 78, No. 6, pp. 3824-3828 (1981).
		Howard, et al., "A Receptor in Pituitary and Hypothalamus That Functions in Growth Hormone Release", Science, Vol. 273, pp. 974-977 (1996).
		Ioannou, et al., "A new bacteriophage P1-derived vector for the propagation of large human DNA fragments", Nature Genet., Vol. 6, No. 1, pp. 84-89 (1994).
		Jameson, et al., "The antigenic index: a novel algorithm for prediction antigenic determinants", CABIOS, Vol. 4, No. 1, pp. 181-186 (1988).

Examiner Signature	Date Considered
--------------------	-----------------

Substitute for form 1449B-PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

COMPLETE IF KNOWN

Application Number 09 831,580
Filing Date September 29, 2001
First Named Inventor Liu
Group Art Unit 1646
Examiner Name Murphy
Attorney Docket Number 20332P

RECEIVED

SEP 24 2003

Sheet 3 of 4

NON PATENT LITERATURE DOCUMENTS

TECH CENTER 10/30/2000

Examiner Initials*	Cite No.	Include name of the author, title, date, page(s), volume-issue number(s) and place of publication.
		Lerner, "Tools for investigating functional interactions between ligands and G-protein-coupled receptors", Trends Neurosci., Vol. 17, pp. 142-146 (1994).
		McKee, et al., Molecular Analysis of Rat Pituitary and Hypothalamic Growth Hormone Secretagogue Receptors", Mol. Endocrinol., Vol. 11, pp. 415-423 (1997).
		Neu, et al., "Leukotrienes in the cerebrospinal fluid of multiple sclerosis patients", Vol. 86, pp. 586-587 (1992).
		Ng, et al., "Dopamine D2 Receptor Dimers and Receptor-Blocking Peptides", Biochem. Biophys. Res. Comm., Vol. 227, pp. 200-204 (1996).
		Offermanns & Simon, "Ga15 and Ga16 Couple a Wide Variety of Receptors to Phospholipase C*", J. Biol. Chem., Vol. 270, pp. 15175-15180 (1995).
		Potenza & Lerner, "A Rapid Quantitative Bioassay for Evaluating the Effects of Ligands Upon Receptors That Modulate cAMP Levels in a Melanophore Cell Line", Pigment Cell Research., Vol. 5, pp. 372-378 (1992).
		Palmer, et al., "Chemokinetic Activity of Arachidonic Acid Lipoxxygenase Products on Leucocytes of Different Species", Vol. 20, No. 2, pp. 411-418 (1980).
		Romano, et al., "Metabotropic Glutamate Receptor 5 is a Disulfide-linked Dimer", J. Biol. Chem., Vol. 271, Vol. 45, pp. 28612-28616 (1996).
		Schertler, et al., "Projection structure of rhodopsin", Nature, Vol. 362, pp. 770-772 (1993).
		Strader, et al., "Structure and Function of G Protein-Coupled Receptors", Ann. Rev. Biochem., Vol. 63, pp. 101-132 (1994).
		Tan & Spector, "Antileukotriene Agents in Asthma", Science & Medicine, pp. 26-33 (July/August, 1997).
		Yokomizo, et al., "A G-protein-coupled receptor for leukotriene B4 that mediates chemotaxis", Nature, Vol. 387, pp. 620-624 (1997).
		Science, Vol. 265, pp. 1891-2144 (1994).
		Verma, et al., Human Chromosomes: A Manual of Basic Techniques, Pergamon Press, New York, NY (1985).

Examiner
 Signature

Date
 Considered

Substitute for form 1449B PTO

INFORMATION DISCLOSURE

STATEMENT BY APPLICANT

(use as many sheets as necessary)

COMPLETE IF KNOWN

Application Number 09 831,580

Filing Date September 29, 2009

First Named Inventor Liu

Group Art Unit 1646

Examiner Name Murphy

Attorney Docket Number 20332P

RECEIVED

SEP 24 2009

TECH OFFICER 1646, 2009

Sheet

4

of

4

NON PATENT LITERATURE DOCUMENTS

**Examiner
Initials***

**Cite
No.**

Include name of the author, title, date, page(s), volume-issue number(s) and place of publication.

GenBank Accession No. D89078

GenBank Accession No. D89079

Showell, et al., "The Preclinical Pharmacological Profile of the Potent and Selective Leukotriene B4 Antagonist CP-195543", J. Pharmacol. and Experi. Therapeutics, Vol. 285, No. 3, pp. 946-954.

Forster, et al., "A general method for screening mAbs specific for G-protein coupled receptors as exemplified by using epitope tagged BLRI-transfected 293 cells and solid-phase cell ELISA", Biochem. Biophys. Res. Comm., Vol. 196, No. 3, pp. 1496-1503 (1993).

Strategene - Gene Characterization, pp. 66 (1991).

**Examiner
Signature**

**Date
Considered**